

REMARKS

Following entry of the above amendments, claims 4-14, 16-31, 34-39, and 41-47 will be pending. Claims 1-3, 15, 32, 33, and 40 have been canceled without prejudice or disclaimer. Claims 4 and 33 have re-written in independent form without change in scope. Claim 18 has been re-written in independent form, with language added to clarify its distinction over the prior art. Claims 11, 14, 16, 22, 24, 28-31, 37, 41-45, and 47 have been amended to avoid dependence upon canceled claims. Claim 14 has also been amended to render moot an indefiniteness rejection.

Allowable Subject Matter

The indication that claim 13 constitutes allowable subject matter is noted with appreciation.

Indefiniteness Rejection

Claim 14 stands rejected under 35 USC 112, second paragraph, as being indefinite for allegedly using the phrase "such as." Actually, the claim does not use that phrase. Nonetheless, the claim has been amended to change "such that" to "whereby," thereby rendering the rejection moot.

Prior Art Rejections

The various prior art rejections are addressed individually below.

Combination of Garber and Narlow

Claims 4-10 and 14 stand rejected under 35 USC 103(a) as obvious over Garber et al. U.S. Patent No. 6,424,262 ("Garber") in view of Narlow et al., U.S. Patent No. 5,517,195 ("Narlow"). Withdrawal of the rejections is respectfully requested for at least the following reasons.

Garber discloses a combination RFID/magnetic security tag 20 that includes an antenna 22, made of a magnetically-responsive material, in addition to an antenna 23

that is coupled to an integrated circuit 12. (Garber discloses that the antenna 23 may also be made of a magnetically-responsive material.) Garber discloses that the antennas 22 and 23 may be electrically coupled to one another. In Garber's combination tag, the magnetically-responsive material is selectively activated or deactivated for use in conventional magnetic interrogation, to indicate the status of the item. Col. 8, lines 36-52. That is, Garber's magnetically-responsive material functions as a separate magnetic tag, without interacting with the RFID chip while performing that function. Garber does not disclose use of magnetic signals to interact with the chip of the tag to prevent communication with the tag when a jamming signal is received.

Narlow discloses an electronic article surveillance (EAS) tag that has a conductive layer 26 on a first side 14 of a substrate 12. The conductive layer 26 is coupled to a diode 54, and functions as a dual frequency antenna circuit, able to respond to a dual frequency interrogation signal from an EAS. Col. 4, lines 17-30. On the opposite side 16 of the substrate 12, Narlow's device has a conductive layer 28 that permanently deactivates the device, by permanently short-circuiting or disabling of the diode 54, upon receipt of a low energy alternating magnetic field. Narlow does not disclose use of a chip, or interaction of the antenna system with the chip.

Claim 4 recites an RFID device that includes, *inter alia*, first and second antennas operatively coupled to a chip, wherein the chip and the antennas are configured such that when low-frequency jamming signals are received, communication between the RFID device and the RFID reader is prevented. Neither reference teaches or suggests a pair of antennas both operatively coupled to the chip so as to prevent communication between the RFID device and an RFID reader when low-frequency jamming signals are received. Narlow does not disclose a chip at all, but rather involves coupling of its antennas to a diode, which may be permanently disabled (rather than temporarily jammed). It will be appreciated that simple coupling of an antenna to a diode is far removed from coupling to a chip for communicating signals to and from a chip. Although Garber does disclose use of a chip, sending of magnetic signals to Garber's magnetically-responsive material merely selectively activates/deactivates the

magnetic material (or interrogates for activation level). Garber's magnetically-responsive material may be part of its RFID antenna structure, but nothing in Garber teaches or suggests that magnetic signals affect the chip in any way. Neither of the cited references teaches or suggests an antenna coupled to a chip such that when low-frequency jamming signals are received, communication between the RFID device and the RFID reader is prevented. Therefore claims 4-10 and 14 are patentable over Garber and Narlow, either alone or in combination.

Some of the dependent claims are patentable over Garber and Narlow for additional reasons. Claim 5 recites coupling the antennas to the chip in parallel. Neither reference teaches or suggests coupling a pair of antennas to a chip in parallel. Garber shows coupling of a single antenna to a chip. Narlow discloses coupling only to a diode, and even then the coupling is not in parallel. Claim 10 recites that the chip is part of a strap. Neither reference teaches or suggests use of a strap. Claim 14 recites a mechanical coupling of a magnetic material element of one antenna, to another antenna. Neither reference teaches or suggests this feature. Garber's magnet material elements are either the RFID antennas themselves, or else are separated in space (not mechanically coupled to) the RFID antennas. None of Narlow's antennas are believed to include magnetic material elements. Thus at least claims 5, 10, and 14 are patentable for additional reasons over Garber and Narlow, either alone or in combination.

Combination of Garber, Narlow, Holland, and Plows

Claims 11 and 12 stand rejected under 35 USC 103(a) as obvious over Garber in view of Narlow, further in view of Holland, U.S. Patent No. 4,746,830 ("Holland"), and Plows, U.S. Patent No. 4,242,671 ("Plows"). Holland and Plows do not make up for the failure of Garber and Narlow to teach or suggest the recited elements of claim 4. For this reason alone, without conceding anything regarding the applicability of what Holland and Plows disclose, claims 11 and 12 are patentable over Garber, Narlow, Holland, and Plows, either individually or in combination.

Combination of D'Hont, Garber, and Novikoff

Claims 18-21 and 34-36 stand rejected under 35 USC 103(a) as obvious over D'Hont, U.S. Patent No. 5,955,969 ("D'Hont") in view of Garber and Novikoff et al., U.S. Patent No. 4,016,553 ("Novikoff"). In addition, claims 16, 17, 22-27, 31, 37-39, 41, 42, and 47 are treated herein as being rejected over the combination of D'Hont, Garber, and Novikoff. In the Action, these claims were rejected over D'Hont alone or over the combination of D'Hont and Garber, but all have been amended to depend on either claim 18 or claim 34. Withdrawal of the rejections is respectfully requested for at least the following reasons.

D'Hont discloses a system for attaining better selectivity in reading RFID tags on cars at tollbooths. D'Hont describes use of a jamming antenna, spaced away from the read antenna, that sends a jamming signal to prevent reading of RFID devices outside of a designated desired read zone. D'Hont does not disclose use of jamming signal transmitters that include a pair of low-frequency field generators that generate signals in opposite phase relative to one another.

Garber's disclosure is discussed above. Garber does not disclose a pair of low-frequency field generators that generate signals in opposite phase relative to one another.

Novikoff discloses an electronic theft detection system that includes a transmitting antenna cluster 10 and a receiving antenna cluster 12 that are placed on opposite sides of a doorway 14. Novikoff discloses that each of the clusters 12 and 14 includes a separate single conductor shaped into a pair of spaced-apart loops that are configured to pass signals that are out of phase with one another. Col. 5, lines 16-52. Novikoff does not disclose use of loops of the clusters for interrogating or any other function by passing items between the loops.

Claim 18 as amended recites a system for detecting RFID devices, wherein the system includes a pair of jamming devices on opposite sides of a designated area, wherein the jamming signal transmitters include a pair of low-frequency generators that generate low-frequency signals opposite in phase to one another. None of the applied

references teach or suggest a system with a pair of opposite-phase low-frequency field generators on opposite sides of a designated area in which RFID devices are read by an RFID device reader. Novikoff is relied upon for teaching this feature. However, Novikoff does not teach or suggest placing its loops on opposite sides of a reading area. In Novikoff each of the clusters has a single conductor made into a pair of out-of-phase loops. The reading or detecting in Novikoff is done between the clusters, not in the middle of any individual cluster. Novikoff clusters would also not motivate one to modify D'Hont's tollbooth jammer to what is recited in claim 18 as amended. In the first place, one encountering Novikoff would not be motivated to perform reading between the loops of a single one of Novikoff's clusters. In addition, in order to work with D'Hont's system to include all the features of claim 18, one would need to stretch the conductors of one of Novikoff's clusters across at least one lane of roadway. Since the references do not teach all of the claimed features, and since there is no motivation for modifying their teachings to do so, claims 16-27 and 31 are patentable over D'Hont, Garber, and Novikoff, either individually or in combination.

Dependent claim 16 recites that the jamming signal transmitters are on opposite sides of the RFID device reader. None of the applied references teach or suggest jamming signal transmitters on opposite sides and an RFID devices reader, so claim 16 is patentable for another reason.

Dependent claim 19 recites that magnetic field signals are the low-frequency signals generated by the jamming signal transmitters. As discussed above with regard to claim 4, Garber's magnetically-responsive material is merely selectively activated or deactivated (or interrogated for activation level). Nothing in Garber is believed to teach or suggest that magnetic signals affect the chip in any way. Therefore the applied references do not teach or suggest the additional recited feature of claim 19, and claim 19 is therefore patentable for another reason.

With regard to claims 24-26, while D'Hont does mention possible use of multiple antennas, D'Hont does not contemplate use of pairs of signal transmitters having different orientations (claim 25), and in particular perpendicular to one another (claim

26). Garber and Novikoff also do not teach or suggest these features. Therefore at least some of claims 24-26 are patentable for additional reasons.

Claim 34 recites a method for selectively detecting RFID devices that includes, among other things, using jamming signal transmitters to inhibit operation of RFID devices outside of a designated area, including generating low-frequency signals from a pair of low-frequency field generators on opposite sides of the designated area. For at least the reasons given above with regard to claim 18, the applied references do not teach or suggest all of the recited features of claim 34. Thus claims 34-39, 41, 42 and 47 are patentable over D'Hont, Garber, and Novikoff, either individually or in combination.

In addition, at least some of the claims dependent upon claim 34 are believed to be patentable for the additional reason that the applied references do not teach or suggest their additional features. In particular, claim 39 (jamming signal transmitters are on opposite sides of an RFID device reader), claim 41 (use of an additional pair of jamming signal transmitters), and claim 47 (using a magnetic jamming signal to move a magnetic material that is part of the RFID device) are believed to be patentable for additional reasons. Applicant is unaware of any cited reference that actually involves moving a magnetic material.

Combination of D'Hont, Garber, Novikoff, and De Souza

Claims 28 and 43 stand rejected as obvious over D'Hont in view of De Souza et al., US 2004/0012496 A1 ("De Souza"). However, since claims 28 and 43 have been amended to depend upon claims 18 and 34, respectively, claims 28 and 43 are treated as being rejected over the combination of D'Hont, Garber, Novikoff, and De Souza. Withdrawal of the rejections is requested for at least the reasons given below.

De Souza discloses use of a phototransistor that reacts to exposure to light of a predetermined frequency to disable a connection between an RFID chip and an antenna. De Souza does not disclose a jamming signal transmitter that emits optical energy.

De Souza does make up for the failure of D'Hont, Garber, and Novikoff to teach or suggest all of the features of claims 18 and 34, as discussed above. For this reason alone, claims 28 and 43 are patentable over D'Hont, Garber, Novikoff, and De Souza, individually or in combination.

In addition, De Souza does not teach or suggest jamming signal transmitters that emit optical energy, as is recited in claims 28 and 43. De Souza involves RFID devices that include phototransistors that react to light of a predetermined frequency, and does not teach or suggest anything about jamming signal transmitters. Thus claims 28 and 43 are patentable over the applied references for another reason.

Combination of D'Hont, Garber, Novikoff, and Rodgers or Reade

Claims 29, 30, and 44-46 stand rejected as obvious over D'Hont in view of Rodgers et al. U.S. Patent No. 6,340,932 ("Rodgers") or Reade et al., US 2004/0100359 ("Reade"). Since each of these claims have been amended to depend upon claim 18 or claim 34, the claims are treated as rejected over the combination of D'Hont, Garber, Novikoff, and Rodgers or Reade. Since Rodgers and Reade do not make up for the deficiencies of the rejections of claims 18 and 34, claims 29, 30, and 44-46 are patentable over D'Hont, Garber, Novikoff, Rodgers, and Reade, either individually or in combination.

Conclusion

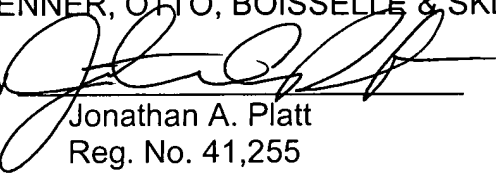
For at least the foregoing reasons, withdrawal of the rejections of the claims is respectfully requested, in which event this application would be in condition for allowance. Should the Examiner believe that a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

In the event any fees are due in connection with the filing of this paper, the Commissioner is authorized to charge those fees to Deposit Account No. 18-0988 (Charge No. AVERP3643US).

Respectfully submitted,

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